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Abstract A dilatometric method is presented, suitable to obtain both thermal diffusivity and conductivity of low-conducting solids with a low expansion coefficient. The repeatibility of the measurements of thermal conductivity is 3%, whereas that for diffusivity is 5 %. Data for fused silica at room temperature are given, consistent with those reported in the literature. Since the method is based on detecting the thermal expansion of a copper disk in thermal contact with the specimen, its range of applicability is linked to the sensitivity by which the dilation of copper can be measured: no difficulty arises between liquid nitrogen and 1000°C.

Key words low-conducting materials - low-expanding materials - thermal conductivity - thermal diffusivity

References secured to subscribers.